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Application No. 04 738 312.0 - 2416	Ref. P20046 S/rat	Date 02.04.2007
Applicant Huawei Technologies Co., Ltd.		

**Communication pursuant to Article 96(2) EPC**

The examination of the above-identified application has revealed that it does not meet the requirements of the European Patent Convention for the reasons enclosed herewith. If the deficiencies indicated are not rectified the application may be refused pursuant to Article 97(1) EPC.

You are invited to file your observations and insofar as the deficiencies are such as to be rectifiable, to correct the indicated deficiencies within a period

**of 4 months**

from the notification of this communication, this period being computed in accordance with Rules 78(2) and 83(2) and (4) EPC.

One set of amendments to the description, claims and drawings is to be filed within the said period on separate sheets (Rule 36(1) EPC).

**Failure to comply with this invitation in due time will result in the application being deemed to be withdrawn (Article 96(3) EPC).**



Bertsch, Andreas  
Primary Examiner  
for the Examining Division

Enclosure(s): 5 page/s reasons (Form 2906)



Bescheld/Protokoll (Anlage)

Communication/Minutes (Annex)

Notification/Procès-verbal (Annexe)

Datum  
Date  
Date

02.04.2007

Blatt  
Sheet  
Feuille

1

Anmeld-Nr.:  
Application No.:  
Demande n°:

04 738 312.0

The examination is being carried out on the **following application documents**:

#### Description, Pages

1-11 filed with entry into the regional phase before the EPO

#### Claims, Numbers

1-11 filed with entry into the regional phase before the EPO

#### Drawings, Sheets

1-5 filed with entry into the regional phase before the EPO

1. The following documents (D) are referred to in this communication; the numbering will be adhered to in the rest of the procedure:

D1: LIOR BRIDGEWATER SYSTEMS P YEGANI CISCO K CHOWDHURY  
NORTEL L MADOUR ERICSSON CANADA Y LI BRIDGEWATER SYSTEMS  
A: "PrePaid Extensions to Remote Authentication Dial-In User Service  
(RADIUS)" IETF STANDARD-WORKING-DRAFT, INTERNET ENGINEERING  
TASK FORCE, IETF, CH, no. 3, 16 February 2003 (2003-02-16), XP015031733  
ISSN: 0000-0004

D2: EP-A2-1 065 838 (SIEMENS AG [DE]) 3 January 2001 (2001-01-03)

D3: "IMT-2000 references to ANSI-41 evolved core network with cdma2000 access  
network" ITU-T STANDARD IN FORCE (I), INTERNATIONAL  
TELECOMMUNICATION UNION, GENEVA, CH, no. Q17421 12/2, 14  
December 2002 (2002-12-14), XP017402618

2. The application does not meet the requirements of Article 84 EPC in that the matter of dependent **claim 3** for which protection is sought is not clearly defined for the following reasons:
  - 2.1 The subject-matter for which protection is sought by dependent **claim 3** is unclear because "corresponding functions" are vague and unclear with respect to the "timing



Bescheid/Protokoll (Anlage)

Communication/Minutes (Annex)

Notification/Procès-verbal (Annexe)

Datum  
Date  
Date

02.04.2007

Blatt  
Sheet  
Feuille

2

Anmeldo-Nr.:  
Application No.:  
Demande n°:

04 738 312.0

messages" sent by the "timing module", thereby rendering the definition of the subject-matter of said claim unclear (Article 84 EPC).

3. The application does not meet the requirements of Article 52 (1) EPC because the subject-matter of independent **claims 1 and 5** does not involve an inventive step in the sense of Article 56 EPC.
- 3.1 Document D1, which is considered to represent the closest prior art with respect to independent **claim 1**, discloses according to features of claim 1 a system for implementing prepaid data services in a mobile communication network, comprising a Radio Network (figure 2: Subscriber Device in Radio Network; page 8, lines 4-5), a Packet Data Service Node (figure 2: Access Device; page 7, lines 1-4: Access Device is PDSN in CDMA2000 deployments), a Home Authentication Authorization and Accounting (figure 2: HAAA; page 8, lines 5-16) server, a Prepaid Server (figure 2: PPS; page 8, lines 5-16), the PDSN being connected to the HAAA via an IP network and the HAAA being connected to the PPS (figure 2: PPS; page 8, lines 5-16).

The subject-matter of claim 1 differs from that disclosed in D1 by a Mobile Switching Center (MSC), a Service Control Point (SCP), a Base Station Controller (BSC), a Base Transceiver Station (BTS) and a Packet Control Function (PCF) module for data services, the BSC/BTS being connected to both the MSC and the PCF module, the MSC being connected to the SCP by means of a No.7 signaling network, the PCF module being connected to the PDSN, a Data service Access Control Point (DACP) for fulfilling price confirmation function and fee application function for data services, the DACP being connected to both the PPS and the SCP.

The problem to be solved by claim 1 may therefore be regarded as how to combine data and voice prepaid service. In order to solve this problem a person skilled in the art would consider document D2, which discloses in the same context of prepaid data service a Data service Access Control Point (figures 1-3: Charging Mediation Server, CMS; paragraphs [22-24]) for fulfilling price confirmation function and fee application function for data services (figures 1-3: Charging Mediation Server, CMS: "Tarifberechnung"; paragraphs [22-24], [27-32]), the DACP (Charging Mediation



Beschuld/Protokoll (Anlage)

Communication/Minutes (Annex)

Notification/Procès-verbal (Annexe)

 Datum  
 Date 02.04.2007  
 Date

 Blatt  
 Sheet 3  
 Feuille

 Anmelde-Nr.:  
 Application No.: 04 738 312.0  
 Demande n°:

Server, CMS) being connected to both the packet switched GPRS network (e.g. figure 2: interface 12) and the SCP (figure 2: interface 5).

A skilled person would thus have the clear hint (see document D1, page 7, line 4) to combine this feature with the features of D1 in order to provide the effect of combining data and voice prepaid services. He would hence arrive at the system defined in claim 1.

It should be noted that the supplementary differing features between D1 and claim 1 (i.e. a Mobile Switching Center (MSC), a Service Control Point (SCP), a Base Station Controller (BSC), a Base Transceiver Station (BTS) and a Packet Control Function (PCF) module for data services, the BSC/BTS being connected to both the MSC and the PCF module, the MSC being connected to the SCP by means of a No.7 signaling network, the PCF module being connected to the PDSN) which are disclosed by e.g. D2 (figures 1-3: BSS, MT, SMP; paragraph [12]: connections by means of a No.7 signaling: CCSNo 7) or the standard CDMA2000 architecture disclosed by D3 (figure 1: PCF, PSDN, MSC, BTS, BSC, MT).

The subject-matter of independent **claim 1** does therefore not involve an inventive step and said claim is thus not allowable according to Articles 52(1) and 56 EPC.

- 3.2 Independent **claim 5** includes respective method features corresponding to the system of claim 1. The supplementary features of claim 5, i.e. the SCP deducting fees from the account of the prepaid service subscriber, and the PDSN controlling data service utilization of the subscriber according to the fees deducted by the SCP are also disclosed by document D2 (e.g. paragraph [28]: "negative Kontostandserhöhung an den Abrechnungsserver SCP" and paragraph [32]: "B7.1) Bei Kontounterschreitung schickt der Abrechnungsserver SCP parallel zur Nachricht an das ABC/HLR eine entsprechende MAP-Mitteilung an den Dienstenetzknoten SGSN").

Therefore the comments above with respect to lack of inventive step apply to claim 5 as well.

Therefore, the subject-matter of independent **claim 5** does not either involve an



## Bescheid/Protokoll (Anlage)

## Communication/Minutes (Annex)

## Notification/Procès-verbal (Annexe)

Datum  
Date  
Date

02.04.2007

Blatt  
Sheet  
Feuille

4

Anmelde-Nr.:  
Application No.: 04 738 312.0  
Demande n°:

inventive step and said claim is thus not allowable according to Articles 52(1) and 56 EPC.

4. Dependent **claims 2 to 4** do not appear to contain any additional features which, in combination with the features of any claim to which they refer, meet the requirements of the EPC with respect inventive step in the sense of Article 56 EPC. These claims are therefore not allowable according to Article 52(1) EPC as they are either disclosed by the cited documents and are thus directly derivable from the cited prior art references D1 or D2 (**claim 3**: D2, page 4, lines 14-24; **claim 4**: D2, page 4, line 15 - page 5, line 15) or they refer only to minor implementing details which are known (**claim 2**: components of a network element: internal modules and interconnection of modules) or fall within the general knowledge of a person skilled in the art.

Therefore **claims 2 to 4** are not allowable due to lack of inventive step, Articles 52 (1) and 56 EPC.

5. When amending the claims, the applicant should also take the opportunity to attend to the following points:
- 5.1 In order to meet the requirements of Rule 27(1)(b) EPC the relevant prior art, i.e. the documents D1 and D2, noted above, should be acknowledged by reference and briefly discussed in the introductory part of the description, preferably in such a way that the inventive merit of what is claimed can be readily understood.
- 5.2 The ultimately adopted independent claims should be drafted in the two-part "characterised" form recommended by Rule 29(1) EPC, having a preamble that correctly reflects the closest prior art, presumably that represented by documents D1 and D2.
- 5.2 All the claims should include reference signs in parentheses where features shown in the drawings are referred to (Rule 29(7) EPC).

**Bescheid/Protokoll (Anlage)****Communication/Minutes (Annex)****Notification/Procès-verbal (Annexe)**

Datum  
Date  
Date

02.04.2007

Blatt  
Sheet  
Feuille

5

Anmelde-Nr.:  
Application No.: 04 738 312.0  
Demande n°:

- 5.4 The opening part of the description should be brought into conformity with the wording of the claim of broadest scope as finally amended.
- 5.5 Special care should be taken to avoid giving rise to further objections by the inadvertent addition of subject-matter (Article 123(2) EPC). In this respect it is to be noted that the indication, in the letter of reply, of the part(s) of the originally filed application serving as basis for subject-matter newly introduced into the claims by the applicant would be useful since it would greatly facilitate the subsequent substantive examination of the claims with respect to Article 123(2) EPC.
- 5.6 Finally, amendments to the application should be filed by way of replacement pages. If handwritten amendments are submitted, they should be clearly legible for the printer.